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ABSTRACT

This report is an evaluation of a New York City school district educational project funded under Title VII of the Elementary and Secondary Education Act of 1965. The major goal of the program was to ensure oral and written student mastery of Spanish and English. One hundred twenty-five ninth-grade students, 100 Spanish-dominant and 25 English-dominant, participated in the program. Instruction, supervision, and guidance were provided by a director, four bilingual teachers, five educational assistants, two family assistants, and a secretary. Program students received bilingual instruction in most high school curriculum areas: language arts, social studies, science, mathematics, aesthetics, physical education and crafts. Two specific evaluation objectives of the program were to determine whether Spanish-dominant students would demonstrate statistically significant improvement in oral English, in English language skills, in their ability to read their native language, and in mathematics and to determine whether English-dominant students would demonstrate statistically significant improvement in oral English, in English language skills, in their ability to read their native language, and in mathematics and to determine whether English-dominant students would demonstrate statistically significant improvement in their ability to speak Spanish. An instrument specific to each objective was administered in pre and posttest situations, and the scores were analyzed. The Spanish-dominant students demonstrated statistically significant growth in the use of oral English, English language skills, reading in Spanish, and mathematics. English-dominant students demonstrated growth in the use of oral Spanish, although the gains were not statistically significant. The program was successful in meeting its objectives. (Author/BS)

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EVALUATION REPORT

Function No. 09-57606

ED138692

John Jay High School Bilingual Education Program

1974 - 1975

Prepared by

Dr. Warren Balinsky

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An Evaluation of a New York City school district educational project funded under Title VII of the Elementary and Secondary Education Act of 1965 (PL 89-10) performed for the Board of Education of the City of New York for the 1974-1975 school year.

VPO 16965

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I. The Program

John Jay High School is the sole academic high school in District 15 of Brooklyn. There are 25,122 students in this District of which 4,255 have second language difficulties, 16.9% of the total. Ethnically, District 15 is 56.3% Puerto Rican and Hispanic. John Jay High School closely parallels this ethnic percentage with 2,100 students (40%). John Jay High School's total enrollment is 5,132 students.

The John Jay High School Bilingual Education Program is in its first year of operation, beginning in September and ending in June. During the 1974-1975 school year 125 students in the ninth grade have been in the program, 100 students are Spanish dominant while 25 are English dominant. Students were selected into the program as a result of both referral by guidance counselors and voluntary enrollment. Instruction, supervision and guidance the principal thrust of the program have been provided by a director, four bilingual teachers, five educational assistants, two family assistants and a secretary.

The program is housed within the John Jay school facility. Program students receive bilingual instruction in all major curriculum areas required for high school matriculation: language arts, social studies, science, mathematics, aesthetics, physical education and crafts. English as a second language is a vital component for the Spanish-speaking students. Cross-culturalization is programmed through a component in Hispanic music and art. Program students occasionally put on assembly and community programs to celebrate for themselves and others in the District events

important to their Hispanic heritage. They also take field trips to various parts of New York City to strengthen their understanding of their environment. The program strives for its students to achieve oral and literate mastery of both Spanish and English, a positive self-image, and mutual respect and understanding as must exist in a culturally pluralistic society.

In addition to the instructional components, staff development, parental and community involvement, and materials acquisition and development components have been designed for the program.

II. Evaluation Procedures

The evaluation design prepared by the Office of Educational Evaluation specified that the following six objectives were to be assessed:

1. To determine whether Spanish dominant will demonstrate a statistically significant improvement in their oral English.

   1a. Subjects: All participants receiving instruction in their use of oral English.

   1b. Procedures: The Test of Oral Production in English will be administered on a pre/post-test basis.

   1c. Data Analysis: One-way correlated t tests will be used to determine the statistical difference in mean raw scores between pre and post-test administerings of the instrument.

   1d. Time Schedule: Pretests will be administered shortly after the beginning of the program, and post-tests will be administered shortly before the termination of the program.

2. To determine whether English-dominant students will demonstrate statistically significant improvement on their teacher ratings in their ability to speak English.

   2a. Subjects: All participants receiving instruction in oral Spanish.

2b. Procedures: The Spanish Oral Ability Rating Scale will be used by teachers to rate subjects on a pre/post-test basis.

2c. Data Analysis: The Median Test for correlated samples will be used to measure the degree of improvement from pre-ratings to post-rating.

2d. Time Schedule: See 1d. above.

3. To determine whether Spanish speaking students will demonstrate statistically significant improvement in their English language skills.

3a. Subjects: All Spanish speaking participants.

3b. Procedures: The Test of Proficiency in English Language Skills will be administered on a pre/post-test basis.

3c. Data Analysis: See 1c. above.

3d. Time Schedule: See 1d. above.

4. To determine whether Spanish-dominant students will demonstrate statistically significant improvement in their ability to read their native language.

4a. Subjects: All Spanish-dominant participants.

4b. Procedures: The appropriate level of the Interamerican Prueba Lectura will be administered on a pre/post-test basis.

4c. Data Analysis: See 1c. above.

4d. Time Schedule: See 1d. above.

5. To determine whether Spanish-dominant students will demonstrate statistically significant improvement in mathematics.

5a. Subjects: All Spanish-dominant students following the course of study for mathematics.

5b. Procedures: The New York State Minimum Competency Examination will be administered on a pre/post-test basis.

5c. Data Analysis: See 1c. above.

5d. Time Schedule: See 1d. above.

6. To determine the extent to which the program, as actually carried out, coincided with the program as described in the Project Proposal.

In its evaluation report, the agency of evaluation must make a statement concerning the extent of this implementation and, where serious discrepancies exist between proposal and program, provide a description of discrepancies.

All of the above evaluative procedures were administered as planned. Both testing periods, pretesting administered shortly after the beginning of the program, and post-testing administered shortly before the termination of the program were implemented on time. The total samples for all Spanish-dominant and English-dominant students were 100 and 25 respectively. However, when one considers late entrants into the program, absentees and students who transfer to other schools

during the year, it becomes clear why 44-68% of the total population is the number of pupils with both pre and post-tests scores for analysis.

III. Findings

This section shall present each objective of the evaluation followed by a table and explanation of the findings relative to that evaluative objective.

Objective 1. - Improvement in Oral English by Spanish-Dominant Students

All Spanish-dominant students received instruction in the use of oral English. Did these students demonstrate a statistically significant improvement in their use of oral English as measured by the Test of Oral Production in English and analyzed on a pre/post-test basis by a correlated t test? Table 1 reports that these students did demonstrate a statistically significant growth at the .05 significance level.

Table I: Test of Oral Production in English by Spanish-Dominant Students

	Pre-Test	Post-Test
No. of Pupils	68	68
Mean (Raw Score)	139.05	159.54
Standard Deviation	46.15	43.55
T- value	3.20	
Results	Significant Growth at .05 Level.	

The Test of Oral Production in English is a teacher prepared exam which must be administered on a one-to-one relationship between the teacher and the student. The teacher asks each question twice and the student's response is measured according to: 1) how long it takes him to respond, 2) the correct word order, structure, and other grammatical points,

3) pronunciation and 4) intonation. A perfect score on this examination would be 250 points.

The evaluator examined the available data and calculated the mean raw score performance on the pre-test as 139.05 and post-test as 159.54 for the 68 program students. A correlated t test of the difference in pre-test and post-test performance indicated that the difference in performance was statistically significant at the .05 level. Therefore, the program did achieve a significant growth in oral production in English for Spanish-dominant students.

Objective 2. - Improvement in Oral Spanish by English-Dominant Students

All English-dominant students received instruction in speaking Spanish. Did these students demonstrate a significant improvement in their ability to speak Spanish as measured by the Spanish Oral Ability Rating Scale and analyzed on a pre/post-test basis by a Median Test for correlated samples? Table 2 reports that these students did demonstrate improvement from pre-ratings to post-ratings, however, this growth was not statistically significant (χ^2 1, .05 = .02).

Table II: Spanish Oral Ability Rating Scale by English-Dominant Students

	Pre-Rating	Post-Rating
Number of Pupils	11	11
Median Ratings	6.5	7.5
Median Ratings (%)	65%	75%

The Spanish Oral Ability Rating Scale is a teacher

prepared exam covering: 1) oral questions, 2) a repetition drill, 3) a transformation drill and 4) a reading selection. A perfect score on this exam would be 10 points.

It was calculated that 100% of the post-ratings were higher than the median of the pre-ratings. Also, only 22.2% of the pre-ratings were higher than the median of the post-ratings. These differences indicate significant improvement in the English-dominant students' ability to speak Spanish. However, the sample of students who had pre and post-ratings (11) strains the statistical assumption of large numbers of pupils and weakens the confidence of this test.

Objective 3. - Improvement in English Language Skills by Spanish-Dominant Students

All Spanish-dominant students received instruction in English language skills. Did these students demonstrate a statistically significant improvement in their use of English language skills as measured by the Test of Proficiency in English Language Skills and analyzed on a pre/post-test basis by a correlated t test? Table 3 reports that these students did demonstrate a statistically significant growth at the .05 significance level.

Table III: Proficiency in English Language Skills by Spanish-Dominant Students

	Pre-Test	Post-Test
No. of Pupils	57	57
Mean (Raw Score)	129.26	141.15
Standard Deviation	38.04	35.85
T- value	1.84	
Results	Significant Growth at .05 Level.	

The Test of Proficiency in English Language Skills includes sections on: 1) comprehension of spoken English, 2) dictation, 3) vocabulary, 4) grammar and usage, 5) reading comprehension and 6) composition. A perfect score on this examination would be 205 points.

The mean raw score performance on the pre-test and post-test by the 57 program students was 129.26 and 141.15 respectively. A correlated t test of the difference in pre-test and post-test performance indicated that the difference in performance was statistically significant at the .05 level. Therefore, the program did achieve a significant growth in English language skills for Spanish-dominant students.

Objective 4. - Improvement in Reading in Spanish by Spanish-Dominant Students

All Spanish-dominant students received instruction in reading in Spanish. Did these students demonstrate a statistically significant improvement in reading in Spanish as measured by the Interamerica Prueba Lectura and analyzed on a pre/post-test basis by a correlated t test? Table 4 reports that these students did demonstrate a statistically significant growth at the .05 significance level.

Table IV: Interamerican Prueba Lectura by Spanish-Dominant Students

	Pre-Test	Post-Test
No. of Pupils	53	53
Mean (Raw Score)	58.45	65.79
Standard Deviation	25.42	22.82
t	1.74	
	Significant Growth at .05 Level.	

The Interamerican Prueba Lectura is a standardized reading test in Spanish with components covering: 1) vocabulary, 2) comprehension speed and 3) comprehension level. A perfect score on this examination would be 125 points.

The elementary level, form DE, was administered as the pre-test with a performance mean of 58.45 for the 53 students who had matched scores on this exam. Form CE of the elementary level was administered as the post-test with a performance mean of 65.79 for these same students. A correlated t test of the difference in pre-test and post-test performance indicated that the difference in performance was statistically significant at the .05 level. Therefore, the program did achieve a significant growth in reading in Spanish for Spanish-dominant students.

Objective 5. - Improvement in Mathematics by Spanish-Dominant Students

All Spanish-dominant students received instruction in mathematics. Did these students demonstrate a statistically significant improvement in mathematics as measured by the New York State Minimum Competency Examination and analyzed on a pre/post-test basis by a correlated t test? Table 5 reports that these students did demonstrate a statistically significant growth at the .05 significance level.

Table V: New York State Minimum Competency in Mathematics Examination by Spanish-Dominant Students

	Pre-Test	Post-Test
No. of Pupils	64	64
Mean (Raw Score)	5.04	11.48
Standard Deviation	3.56	7.01
T-value	6.70	
Results	Significant Growth at .05 Level.	

The New York State Minimum Competency in Mathematics Examination includes questions on: 1) addition, 2) subtraction, 3) multiplication, 4) division, 5) fractions, 6) percentage and 7) short verbal mathematics problems. A perfect score on this examination would be 40 points.

The mean raw score performance on the pre-test and post-test were 5.04 and 11.48 respectively for the 64 students with matched pre and post scores. A correlated t test of the difference in pre-test and post-test performance indicated that the difference in performance was statistically significant at the .05 level. Therefore, the program did achieve a significant growth in mathematics for Spanish-dominant students.

Objective 6. - Discrepancy Analysis -

Program vs. Proposal

The program shall be carried out as planned for in the proposal. To what extent was the program implemented as described in the program proposal? All of the first year program objectives have been implemented consistent with the program proposal.

The preceding pages explain that all the instructional objectives were successfully implemented resulting in statistically significant student growth. Also, curriculum and materials have been acquired and developed as planned. As a specific example, the Latin-American studies and Puerto Rican and Caribbean studies curriculum have been developed by the regular school Spanish and history teachers as well as the bilingual teachers in the program. The school Spanish

teacher contributed to these curriculum development activities by bringing an additional historical and language perspective to the work. The school history teacher assisted by contributing an anthropological perspective.

Parental and community involvement was also significant. There were at least four Parent Advisory Committee meetings and Parent Workshop meetings during the program year. These meetings afforded participants' parents the opportunity to learn about the program and discuss its future improvement. Such issues as: 1) the relation of the bilingual program to the school, 2) the addition of school directives (signs) in Spanish in the gym and 3) incorporating summer and evening programs for parents into the 1975-1976 proposal were discussed. The program also published an informative newsletter distributed to all concerned with the program.

Bilingual teachers attended college courses at the City University of New York and New York University. Aides attended programs of continuing education too. Some of the regular school teachers now recognize the need for increasing their abilities in Spanish and have signed up for courses given by the Board of Education.

There were five monthly staff meetings wherein the program was discussed and evaluated by the staff and the Project Director. Specific topics discussed were: the use of the educational assistants in the classroom, the use of English in the classroom, and the use of the family assistant to solve school problems.

Field trips have been carried out during the year:

1. English-dominant students visited the Cloisters,
2. Spanish-dominant students visited the United Nations and Planetarium,
3. All students participated in a Circle Line boat trip around Manhattan making them aware of the city and its historical sites, and
4. All students visited the Bronx Zoo to observe animals.

Of particular achievement, the program's Hispanic Art project has received city wide recognition. Program students made Aztec calendars from plaster of paris strips that were so nicely made as to be written about in two issues of "Learning in New York", the New York City Board of Education newspaper. They also made such outstanding linoleum prints that a few are on display in the Lever House Building in New York City. In addition, they made Mexican masks symbolic of Mexican religious history out of plaster of paris.

The facilities within John Jay High School are somewhat inadequate. The school as a whole is overcrowded and, therefore, the school assigned the program some irregular classrooms (art rooms) for academic subjects! This type of classroom makes the student-teacher rapport extremely difficult. The school has not had space for the bilingual resource center. The bilingual materials are either retained in the director's office or the already overcrowded school library. This does not afford teachers and students the access to resources as planned.

The Program Staff has visited the bilingual programs at Louis D. Brandeis High School and Eastern District High School and is benefiting from them. In total the program is servicing the needs of the specific target population for which it was designed.

VI. Summary of Major Findings, Conclusions, and Recommendations

All Spanish-dominant students demonstrated statistically significant growth (at the .05 significance level as analyzed by a correlated t test) in:

1. the use of oral English,
2. English language skills,
3. reading in Spanish,
4. mathematics.

All English-dominant students demonstrated growth (although not statistically significant growth) in the use of oral Spanish. The program was fully implemented as planned for in the program proposal.

From these evaluations one must conclude that the program was successful in all respects in achieving all its first year objectives. However, in relation to the long range program goals the evaluator recommends increased effort in establishing a bilingual resource center on the school premises and increased action toward establishing a totally bilingual high school, in a separate facility close to the existing building as called for in the program proposal.

With respect to improving instruction in next year's operation the evaluator recommends teaching predominantly in the students' dominant language in subject matter courses (i.e., social studies, science, etc.) and using the secondary language for reinforcement purposes or for a review of definitions and terminology. Thereby as much subject matter growth as possible will take place while leaving the language skills to be taught mainly during the language skills instructional time. The program should increase its staff meetings to achieve an average of one a month.

With respect to future evaluations of this program, the evaluator recommends: 1) replacing some of the subjective evaluative instruments (i.e., Test of Oral Production in English, Spanish Oral Ability Rating Scale) with standardized instruments as they become available, 2) whenever possible administering a test instrument by the same teacher to remove the variability attributable to different proctors and 3) increasing the sample size by extending the testing period so as to pick up absentees.

The project should definitely be continued since the District is in great need of bilingual educational opportunities for its students.

APPENDICES

OFFICE OF EDUCATIONAL EVALUATION - DATA LOSS FORM

(attach to MIR, item #30) Function # 09-57606

John Jay High School Bilingual Education Program

In this table enter all Data Loss information. Between MIR, item #30 and this form, all participants in each activity must be accounted for. The component and activity codes used in completion of item #30 should be used here so that the two tables match. See definitions below table for further instructions.

Component Code					Activity Code			(1) Group I.D.	(2) Test Used	(3) Total N	(4) Number Tested/ Analyzed	(5) Participants Not Tested/ Analyzed		(6) Reasons why students were not tested, or if tested, were not analyzed	
												N	%		Number/ Reason
6	1	4	1	5	7	2	0	9	Oral Prod. Eng.	100	68	32	32%	Students not tested because they entered the program after pre-testing or left before post-testing.	32
6	1	4	1	5	7	2	0	9	Span. Oral Rating	25	11	14	56%		14
6	1	2	1	5	7	2	0	9	Prof. Eng. Skills	100	57	43	43%	"	43
6	6	7	1	5	7	2	0	9	Inter-Amer.	100	53	47	47%	"	47
6	6	8	1	5	7	2	0	9	NYS Min. Comp.	100	64	36	36%	"	36

(1) Identify the participants by specific grade level (e.g., grade 3, grade 9). Where several grades are combined, enter the last two digits of the component code.

(2) Identify the test used and year of publication (MAT-70, SDAT-74, etc.).

(3) Number of participants in the activity.

(4) Number of participants included in the pre and posttest calculations found on item#30.

(5) Number and percent of participants not tested and/or not analyzed on item#30.

(6) Specify all reasons why students were not tested and/or analyzed. For each reason specified, provide a separate number count. If any further documentation is available, please attach to this form. If further space is needed to specify and explain data loss, attach additional pages to this form.

Examination
Spanish 1ED

Pre

Test.
Oral Ability Rating Scale

Oral Questions:

1) ¿Cómo está Vd.?

2) ¿Qué tiempo hace hoy?

3) ¿Cómo se llama Vd.?

Repetition Drill:

Yo estoy bien, gracias.

Vd. está bien, gracias.

Nosotros estamos bien, gracias.

Vds. están bien, gracias.

Transformation Drill:

Vd. está bien.

Vds. están bien.

Yo estoy bien.

Nosotros estamos bien.

Reading Selection:

José es un muchacho español. El siempre está bien. El estudia mucho todos los días.

María es una muchacha española. María no está bien. Ella no estudia mucho todos los días.

María y Jose son alumnos inteligentes. Les gusta mucho la escuela.

rosi resi

Examination
Spanish 2ED

Oral Questions:

1) ¿Cómo se llama su profesora de inglés?

2) ¿Dónde viven sus abuelos?

3) ¿De qué color es la pared?

4) ¿Dónde vive Vd.?

5) ¿Cuántas personas hay en su familia?

Repetition Drill:

Yo tengo que estudiar el español.

Tú tienes que estudiar el español.

Vd. Tiene que estudiar el español.

Nosotros tenemos que estudiar el español.

Vds. tienen que estudiar el español.

Transformation Drill:

Yo estudio mucho en casa.

Nosotros estudiamos mucho en casa.

Vds. viven en Brooklyn.

Vd. vive en Brooklyn.

Examination
Spanish 2FD

Reading Selection:

Enrique es un muchacho de catorce años. El y sus amigos van a una escuela secundaria de la ciudad. El padre de Enrique es médico. Enrique también quiere ser médico.

Los muchachos tienen clases de geometría, biología, historia, inglés, y muchas otras asignaturas. La escuela secundaria es muy moderna y muy excelente.

Instructions on how to administer the Test of Oral Production

The test must be administered on a one-to-one relationship between the teacher and the student. If possible, the student should be removed from the group setting into a small quiet room.

At no point should the student see the written version of the questions. The teacher should repeat each question or instruction twice at a normal rate of speed. The participant's response should be measured according to:

1. how long it takes him to respond
2. the correct word order, structure, and other grammatical points
3. pronunciation
4. intonation

For example, if the test were administered to a native speaker of English (even though he might be illiterate he would probably achieve 10 points for each question or a total score of 250. Even an advanced student of English as a Second Language would probably not achieve a 10 point score on any question as he would evidence some variation in pronunciation, intonation, and use of inflection.

The sample answers given under each question are just that--samples--to give the teacher some idea of how to rate the wide variety of responses which he may get.

Throughout the test the student should not be made to feel pressured. Even as he is noting a numerical score, the teacher should smile, commend, and encourage the participant.